

Docket No.: 306812005300  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
David LEWIS, et al.

Application No.: Not Yet Assigned

Group Art Unit: Not Yet Assigned

Filed: Concurrently Herewith

Examiner: Not Yet Assigned

For: ARITHMETIC STRUCTURES FOR  
PROGRAMMABLE LOGIC DEVICES

**POWER OF ATTORNEY**

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Altera Corporation, assignee of the entire right title and interest in the above-identified application by assignment, submitted herewith, hereby appoints the members of the firm of Morrison & Foerster LLP, a firm composed of:

Lisa A. Amii	48,199	Carol M. Gruppi	37,341	James J. Mullen, III	44,957
Randolph Ted Apple	36,429	Alicia J. Hager	44,140	Kate H. Murashige	29,959
Mehran Arjomand	48,231	Johney U. Han	45,565	Martin Noonan	44,264
Shantanu Basu	43,318	Laurie L. Hill	51,804	Catherine M. Polizzi	40,130
Vincent J. Belusko	30,820	Douglas G. Hodder	41,840	Philip D. Reilly	41,415
Jonathan Bockman	45,640	Alan S. Hodes	38,185	James Remenick	36,902
Kimberly A. Bolin	44,546	Charles D. Holland	35,196	Robert A. Saltzberg	36,910
Barry E. Bretschneider	28,055	Arthur S. Hsieh	48,247	Robert E. Scheid	42,126
Nicholas S. Buffinger	39,124	Jill A. Jacobson	40,030	Debra A. Shetka	33,309
Robert K. Cerpa	39,933	Wayne C. Jaeschke, Jr.	38,503	Rebecca Shortle	47,083
Alex Chartove	31,942	Parisa Jorjani	46,813	J. David Smith	39,839
Peng Chen	43,543	Ararat Kapouytian	40,044	Kevin R. Spivak	43,148
Thomas E. Ciotti	21,013	Richard C. Kim	40,046	Shannon Thomas	52,285
Cara M. Coburn	46,631	Cameron A. King	41,897	Thomas L. Treffert	48,279
Raj S. Dave'	42,465	Norman R. Klivans	33,003	Brenda J. Wallach	45,193
Peter J. Davis	36,119	Glenn M. Kubota	44,197	Michael R. Ward	38,651
David L. Devernoe	50,128	Kawai Lau	44,461	E. Thomas Wheelock	28,825
Scott W. Doyle	39,176	Katherine D. Lee	44,865	Todd W. Wight	45,218
Stephen C. Durant	31,506	Otis Littlefield	48,751	Eric H. Witt	44,408
Christopher B. Eide	48,375	Hugh H. Matsubayashi	43,779	Timothy A. Worrall	54,552
Carolyn A. Favorito	39,183	Michael J. Mauriel	44,226	Bryan H. Wyman	48,049
David L. Fehrman	28,600	Mika Mayer	47,777	David Yang	44,415
Hector G. Gallegos	40,614	Robert S. McArthur	45,674	Peter J. Yim	44,417
Deborah S. Gladstein	43,636	Gladys H. Monroy	32,430	Karen Zachow	46,332
Debra J. Glaister	33,888	Scott C. Moore	52,047	Jie Zhou	52,395
Bruce D. Grant	47,608	Philip A. Morin	45,926		

as its attorneys, and Derek E. Minihane (Reg. No. 39,774) of Altera Corporation, 101 Innovation Drive, San Jose, California 95134, telephone (408) 544-7000, with full power of substitution to prosecute this application and transact all matters in the United States Patent and Trademark Office connected therewith, said appointment to be to the exclusion of the inventors and their attorneys in accordance with the provisions of 37 C.F.R. § 3.71 provided that if any one of said attorneys or agents ceases being affiliated with the law firm of Morrison & Foerster as partner, employee or of counsel, or with Altera Corporation, such attorney's or agent's appointment as attorney or agent and all powers derived therefrom shall terminate on the date such attorney or agent ceases being so affiliated.

The assignee certifies that it has reviewed the assignment and to the best of the assignee's knowledge and belief, title is in the assignee.

Application No.: Not Yet Assigned

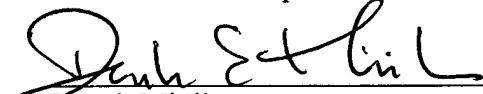
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Docket No.: 306812005300

Please direct all correspondence regarding this application to the following:

MORRISON & FOERSTER LLP  
Attn: Robert E. Scheid  
425 Market Street  
San Francisco, California 94105  
Telephone: (415) 268-7000  
Fax: (415) 268-7522

For: Altera Corporation

  
Derek Minihaue

Dated: 10/21/03

**DECLARATION FOR UTILITY PATENT APPLICATION**

AS BELOW-NAMED INVENTORS, WE HEREBY DECLARE THAT:

Our residences, post office addresses, and citizenships are as stated below next to our names.

We believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled: ARITHMETIC STRUCTURES FOR PROGRAMMABLE LOGIC DEVICES, the specification of which is attached hereto unless the following box is checked:

☐ was filed on \_\_\_\_\_ as United States Application Serial No. \_\_\_\_\_.

WE HEREBY STATE THAT WE HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE.

We acknowledge the duty to disclose information which is material to the patentability as defined in 37 C.F.R. § 1.56.

We hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed:

Application No.	Country	Date of Filing (day/month/year)	Priority Claimed?
			<input type="checkbox"/> Yes <input type="checkbox"/> No

We hereby claim benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

Application Serial No.	Filing Date

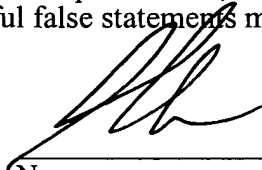
We hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112, we acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

Application Serial No.	Filing Date	Status
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Oct 17/03

Date



Name: David LEWIS  
Residence: Toronto, Canada  
Citizenship: Canada  
Post Office Address: 188 Howland Avenue, Toronto  
Ontario M5R 3B6, Canada

Date

Name: Bruce PEDERSEN  
Residence: San Jose, California  
Citizenship: United States  
Post Office Address: 325 Bluefield Drive, San Jose, California 95136

Date

Name: Sinan KAPTANOGLU  
Residence: Belmont, California  
Citizenship: United States  
Post Office Address: 2701 Witheridge Road, Belmont, California 94002

**DECLARATION FOR UTILITY PATENT APPLICATION**

AS BELOW-NAMED INVENTORS, WE HEREBY DECLARE THAT:

Our residences, post office addresses, and citizenships are as stated below next to our names.

We believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled: ARITHMETIC STRUCTURES FOR PROGRAMMABLE LOGIC DEVICES, the specification of which is attached hereto unless the following box is checked:

☐ was filed on \_\_\_\_\_ as United States Application Serial No. \_\_\_\_\_.

WE HEREBY STATE THAT WE HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE.

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Application Serial No.	Filing Date	Status
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned

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 Date                      Name:                      David LEWIS  
                                  Residence:                  Toronto, Canada  
                                  Citizenship:                Canada  
                                  Post Office Address: 188 Howland Avenue, Toronto  
                                  Ontario M5R 3B6, Canada

Oc 16 2003 *Bruce Pedersen*  
                      
 Date                      Name:                      Bruce PEDERSEN  
                                  Residence:                  San Jose, California  
                                  Citizenship:                United States  
                                  Post Office Address: ~~325 Bluefield Drive, San Jose, California 95136~~  
                                  *1063 Morse Av #21300*  
                                  *San Jose CA 94089*

10/17/2003 *S. Kaptanoglu*  
                      
 Date                      Name:                      Sinan KAPTANOGLU  
                                  Residence:                  Belmont, California  
                                  Citizenship:                United States  
                                  Post Office Address: 2701 Witheridge Road, Belmont, California 94002

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: David LEWIS, et al.Application No./Patent No.: Not Yet Assigned Filed/Issue Date: Concurrently HerewithEntitled: ARITHMETIC STRUCTURES FOR PROGRAMMABLE LOGIC DEVICES

Altera Corporation , a corporation  
 (Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ **the assignee of the entire right, title, and interest; or**  
 2. ☐ an assignee of less than the entire right, title and interest.  
 The extent (by percentage) of its ownership interest is \_\_\_\_\_ %  
 in the patent application/patent identified above by virtue of either:

A. ☒ **An assignment from the inventor(s) of the patent application/patent identified above.** The  
 was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_ ,  
 Frame \_\_\_\_\_ , or for which a copy thereof is attached.

**OR**

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current  
 assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the United States Patent and Trademark Office at  
 Reel \_\_\_\_\_ , Frame \_\_\_\_\_ , or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the United States Patent and Trademark Office at  
 Reel \_\_\_\_\_ , Frame \_\_\_\_\_ , or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the United States Patent and Trademark Office at  
 Reel \_\_\_\_\_ , Frame \_\_\_\_\_ , or for which a copy thereof is attached.

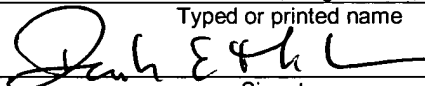
☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ **Copies of assignments or other documents in the chain of title are attached.**

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

10/1/03  
 Date  
(408) 544-7000  
 Telephone Number

Derek Minihaue, Reg. No. 39,774  
 Typed or printed name  
  
 Signature  
Director, Intellectual Property Law And Assistant Secretary  
 Title

Attorney Docket No. 306812005300

## ASSIGNMENT JOINT

THIS ASSIGNMENT, by David LEWIS, Bruce PEDERSEN and Sinan KAPTANOGLU (hereinafter referred to as the assignors), residing at 188 Howland Avenue, Toronto, Ontario M5R 3B6, Canada; 325 Bluefield Drive, San Jose, California 95136; and 2701 Witheridge Road, Belmont, California 94002, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in ARITHMETIC STRUCTURES FOR PROGRAMMABLE LOGIC DEVICES, set forth in an application for Letters Patent of the United States, having an oath or declaration executed on even date herewith; and

WHEREAS, Altera Corporation, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 101 Innovation Drive, San Jose, California 95134 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

\_\_\_\_\_  
Date

\_\_\_\_\_  
David LEWIS

Oct 16 2003

\_\_\_\_\_  
Date

Bruce PEDERSEN

10/17/2003

\_\_\_\_\_  
Date

Sinan KAPTANOGLU

## ASSIGNMENT JOINT

THIS ASSIGNMENT, by David LEWIS, Bruce PEDERSEN and Sinan KAPTANOGLU (hereinafter referred to as the assignors), residing at 188 Howland Avenue, Toronto, Ontario M5R 3B6, Canada; 325 Bluefield Drive, San Jose, California 95136; and 2701 Witheridge Road, Belmont, California 94002, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in ARITHMETIC STRUCTURES FOR PROGRAMMABLE LOGIC DEVICES, set forth in an application for Letters Patent of the United States, having an oath or declaration executed on even date herewith; and

WHEREAS, Altera Corporation, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 101 Innovation Drive, San Jose, California 95134 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

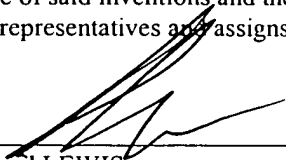
NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

Oct 17/03  
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David LEWIS

\_\_\_\_\_  
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Sinan KAPTANOGLU